DOCUMENT RESUME

ED 191 359 HE 013 000

AUTHOR Tracy, D. B.: Tollefson, Nona
TITLE A Multidimensional Study of Effective Teachers.
SPONS AGENCY Kansas Univ., Lawrence. General Research Fund.
PUB DATE Apr 79
NOTE 46p.: Paper presented at the Annual Meeting of the American Educational Research Association (San Francisco, CA, April 1979).

EDRS PRICE MF01/PC02 Plus Postage.
DESCRIPTORS Behavior Rating Scales: *College Faculty: College Instruction: *Faculty Evaluation: Higher Education: Knowledge Level: *Self Evaluation (Groups): *Student Evaluation of Teacher Performance: Student Teacher Relationship: Teacher Attitudes: *Teacher Behavior: Teacher Characteristics: *Teacher Effectiveness: Teacher Role: Teaching Methods: Videotape Recordings

ABSTRACT

Teaching behaviors of university faculty nominated for and receiving teaching awards were studied through teacher self-report, student ratings, and videotapes of classes. Thirty outstanding teachers of a midwestern university were randomly selected from a larger group who had been selected for major teaching awards. A behavioral rating scale was used to collect student descriptions of the teaching behaviors of the outstanding teacher sample, and structured interviews investigated teacher attitudes about teaching behaviors, and demographic information. Observational data revealed a similar pattern of strengths as did the student rating data. Findings indicated that the effective teacher sample were experienced and competent teachers. A majority of the faculty reported that subject matter expertise explained their effectiveness as teachers, and student ratings concurred in this evaluation. Personal-social variables were also cited by both samples as explanatory variables for teacher effectiveness. Teachers viewed teaching as important and agreed that the goal of teaching was to actively involve students in the learning process. The effective teacher sample respected students and communicated to them their willingness to assist them in learning. Additionally, the effective teachers placed heavy work demands upon students. (SW)

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# A Multidimensional Study of Effective Teachers

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Paper presented at the annual meeting of the American Educational Research Association: Special Interest Group in Postsecondary Education. San Francisco, April, 1979

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This research was funded by a grant from

The University of Kansas General Research Fund

HE 013 000

Research on teacher characteristics is not new (Ebel, 1969). However, recent literature on teacher effectiveness has tended to be concerned with single dimensions of teacher characteristics such as teacher personality (Getzels and Jackson, 1963; Isaacson, McKeachie, and Milholland, 1963); teacher attitude (Costin, 1972), educational values and goals (Dunford, 1970; Jervis & Congdon, 1958; Martin, 1969); and teacher behavior in the classroom (Hays, 1963). Much research has also concerned itself with the similarities and differences between faculty and student perceptions of teaching effectiveness (Hanke, 1970), and the characteristics of students who give teachers high ratings (DeColigny, 1968; Rokeach, Gladin, and Trumbo, 1960).

The present study represents a simultaneous examination of teacher variables and student ratings. The study contributes methodologically to the existing body of research on characteristics of effective teachers by studying the interrelationships of teacher self-report and student ratings of teaching behaviors.

## Review of Literature

Although research on the characteristics of effective teachers has yielded somewhat inconsistent and contradictory results, certain variables have consistently been identified. These variables can best be described as knowledge, organizational, presentation, and relationship variables.

Subject Matter Knowledge. Two teacher characteristics which have been found to be important to students evaluating teacher effectiveness are: (1) knowledge of the subject matter (Costin, Greenough & Menges, 1972; Crawford & Bradshaw, 1968; Deshpande et al., 1970; Downie, 1952; Gadzella, 1968; Anderson, Alpert, & Golden, 1978), and (2) interest in the subject matter (Crawford & Bradshaw, 1968; Deshpande et al., 1970; Downie, 1952; Gadzella, 1968). Research

has also shown that students rate experienced teachers higher than inexperienced teachers (Bledsoe, Brown, & Strickland, 1971; Sullivan & Skanes, 1974, Villano, 1975). A teacher's reputation as a subject matter expert is also known to affect student ratings. McClelland, (1970) and Perry, Niemo, and Jones, (1974) have shown that student's beliefs about the background and effectiveness of the teachers are also factors in the ratings they assign the teacher.

Organizational Skills. Frequently found to be an important factor is the teacher's organizational skill (Costin et al., 1972; Crawford & Bradshaw, 1968; Deshpande et al., 1970; Downie, 1952; Gadzella, 1968; McKeachie & Lin, 1975; McKeachie, Lin, and Mann, 1971; Pohlmann, 1975). Organizational skill includes such factors as preparation, showing a sense of direction, keeping students informed of their progress, and class organization. McKeachie & Lin (1975) found that questions in their rating scale which loaded on this factor were those which asked the student to rate the teacher on the following items:

> The course was well organized.
> Followed an outline closely.
> Had everything going according to schedule.

Because of the number of times this factor made a significant contribution to teachers ratings, organizational skills are probably considered by students to be a sign of good teaching.

Teaching Skill. Teaching skill refers to the teacher's ability to facilitate learning by the effective communication of information through diverse means. This variable appears repeatedly in teacher effectiveness research and includes the students' perception of a teacher's general teaching ability (Deshpande et al., 1970; McKeachie & Lin, 1975), overall clarity (Costin et al., 1972), awareness of degree of student comprehension, the ability to communicate difficult ideas (Pohlmann, 1975), and skill in presenting material in an interesting and stimulating manner (McKeachie & Lin, 1975). Also included here is

the students' expectation of increased knowledge acquisition after having been taught by a skilled teacher. Students seem to associate gaining "a great deal of knowledge about the subject matter" (McKeachie & Lin, 1975 p. 303) with effective instruction.

McKeachie & Lin (1975) found student ratings of teacher effectiveness to be related to work load. A large quantity of required work and difficult reading material were regarded by students as components of good instruction. McKeachie & Lin (1975) pointed out that students do not regard "hard" courses to be the result of poor instruction. On the contrary, the students related good teaching and a heavy work load. Thus students regarded information or work overload as an indicator of high quality instruction.

Another important factor is the impact the teacher has in motivating the students' intellectual curiosity (Costin et al., 1972; McKeachie & Lin, 1975). Students gave high ratings to teachers they described as increasing their interest in the subject matter. Students apparently perceived an increase in their interest in the subject matter as directly related to the teaching skill of the instructor.

Teacher reputation has also been found to explain differences in effectiveness ratings (Leventhal, Abrami, Perry, and Breem, 1975; Leventhal, Abrami, & Perry, 1976). Variables which influence a teacher's reputation include his/her experience (see above), student achievement (McKeachie, Lin, and Manny, 1971; Rodin & Rodin, 1973; Sullivan & Skanes, 1974), students' expected and actual grades (Bledsoe, et al., 1971; Holmes, 1971; Kennedy, 1975; Sullivan & Skanes, 1974; Elmore & Pohlman, 1978), and entertainment value of the class (Royce, 1956; Weaver, 1960; Anderson et. al., 1978).

Relationships with Students. An instructor's rapport with students is also an important variable in teacher ratings. Whether or not the teacher is perceived as warm and friendly (Baird, 1973; Costin & Grush, 1973; Elmore &

La Pointe, 1975; Isaacson, McKeachie & Milholland, 1963; McKeachie & Lin, 1971; Elmore & Pohlman, 1978; McKeachie, Lin, and Mann, 1971), flexible (Gadzella, 1968) and willing to see students outside of class (Crawford & Bradshaw, 1968) has an impact on ratings. Students seem to value a teacher who is genuinely interested in them both as individuals and students.

Summary. Teacher effectiveness literature indicates no clear cut set of characteristics which are shared by teachers rated as effective. However, classes of teacher characteristics have been identified. These include subject matter knowledge, organizational skill and skill in interpersonal relationships with students.

## Methodology

The present study focused upon the self-reported teaching behaviors of teachers who had received or been nominated for teaching awards and evaluations of their teaching by students enrolled in their classes. The selection of award winning teachers as subjects was based upon the need to identify a sample of teachers who could truly be considered effective. Persons receiving teaching awards have demonstrated teaching skill. They have been viewed as effective across more than one semester with more than one class of students. Award winning teachers are also usually viewed as effective by their peers as most teaching awards require peer as well as student testimonials to effective teaching.

### Subjects

Faculty Subjects. Thirty outstanding teachers (24 male and 6 female) currently on the faculty of a moderately large midwestern university were randomly selected from a population of 102 outstanding teaching faculty. The population was comprised of award winners and award nominee finalists for four

major teaching awards conferred at the university. Forty faculty subjects were asked to participate in the study and thirty-one (78%) agreed to participate. (One faculty participant left the university at the end of the fall semester, leaving thirty subjects for the final sample.) Some of the non-participants declined because they did not wish to participate in research of this type; others were simply unavailable due to leaves and sabbaticals. Table 1 describes the academic ranks and teaching fields of the outstanding teacher sample.

Table 1

Academic Characteristics of the Outstanding Faculty Sample

| Academic Rank | Frequency | Percentage |
|---|---|---|
| Assistant Professor | 1 | 4 |
| Associate | 12 | 40 |
| Full Professor | 17 | 56 |
| Teaching Field | | |
| Behavioral Sciences | 5 | 17 |
| Languages including English | 6 | 20 |
| Journalism | 4 | 13 |
| Social Sciences | 5 | 17 |
| Science including Math | 6 | 20 |
| Professional Schools including Business Law and Engineering | 4 | 13 |

Student Subjects Student subjects (n=585) were persons enrolled in courses taught by the faculty subjects. Each faculty subject was asked to select one of the courses he/she taught and have students in that class provide data about the faculty subject's teaching behaviors. Student data were provided by an unsystematically selected group of students.

Instruments

Structured Interviews. Self-report of teaching philosophies and teaching behavior were collected from faculty subjects using a structured interview schedule. The interview schedule requested information in three broad areas:

1) educational demographic characteristics; 2) attitudes toward teaching; and 3) teaching behaviors. Interviews were conducted in the faculty subjects' offices and recorded on audio tape. An hour was scheduled for each interview and most interviews were completed within that period of time.

Teacher Behavior Rating Scale (TRBS). A behavioral rating scale was used to collect student descriptions of the teaching behaviors of the outstanding teacher sample. The TBRS included 30 pairs of bipolar teaching behaviors. Students described teacher behavior using a seven-point scale.

The TBRS was developed for the study using rational scaling procedures. Data from research studies identifying characteristics of effective teachers was used to generate an item pool. The criterion used to select the behaviors included in the TRBS was that the behavior had been identified as important in at least two research studies.

The 30 teaching behaviors were then submitted to a sample of 62 graduate and undergraduate students who rated the behaviors along a 7-point scale from most important to least important to effective teaching. The number of behaviors which could be assigned each numerical value was specified. Thus, the rater was directed to select the two most important behaviors and assign them a rank of 7, to select the three next most important behaviors and assign them a rank of 6 etc. This rating procedure insured that the ratings assigned to the behaviors would approximate a normal distribution. In Table 2, items are arranged by mean item response from highest to lowest.

Students rated knowledge and motivational variables as most important to effective teaching. Interest in students and objective treatment of students were also considered important. Use of particular teaching aides and developing personal relationships with students were viewed as least important to effective teaching.

Table 2

Mean Importance Rank with Behaviors arranged from Most to Least Important

| Item | | Mean |
|---|---|---|
| 1. | is very knowledgeable in the field | 5.7 |
| 2. | stimulates students through interesting and original materials and techniques | 5.6 |
| 3. | is fair, impartial, and objective in treatment of students | 5.5 |
| 4. | is interested in students | 5.3 |
| 5. | classroom procedure is planned and well organized | 5.0 |
| 6. | conducts clear, practical demonstrations and explanations | 4.8 |
| 7. | is enthusiastic | 4.8 |
| 8. | gives well organized presentations | 4.7 |
| 9. | classroom procedure is flexible within overall plan | 4.4 |
| 10. | gives help willingly | 4.4 |
| 11. | is friendly and courteous in relations with students | 4.3 |
| 12. | recognizes and admits own mistakes | 4.2 |
| 13. | is clear and thorough in giving directions | 4.2 |
| 14. | encourages student questions | 4.1 |
| 15. | shows understanding and sympathy in working with students | 4.0 |
| 16. | is patient | 4.0 |
| 17. | encourages students to do their best | 4.0 |
| 18. | forsees and attempts to resolve potential difficulties | 3.9 |
| 19. | encourages students to work through their own problems and evaluate their accomplishments | 3.9 |
| 20. | commends effort and gives praise for work well done | 3.9 |
| 21. | specifies the grading model for the course | 3.7 |
| 22. | anticipates individual needs | 3.6 |
| 23. | has a sense of humor | 3.6 |

Table 2 (cont.)

Mean Importance Rank with Behaviors arranged from Most to Least Important

| Item | | Mean |
|---|---|---|
| 24. | is self-controlled, not easily upset | 3.6 |
| 25. | accepts students efforts as sincere | 3.4 |
| 26. | is cheerful | 3.2 |
| 27. | anticipates reactions of others | 2.8 |
| 28. | helps students with personal as well as educational problems | 2.3 |
| 29. | uses slides and films | 1.7 |
| 30. | uses blackboard well | 1.7 |

Students were also asked to indicate on a six point scale the frequency with which each behavior was exhibited by college professors in general. The following scale was used: a rank of 1 was assigned if less than 10% of college professors displayed the behavior; a rank of 2 if 10% to 25% of college professors displayed the behavior; a rank of 3 was assigned if 26% to 50% of college professors displayed the behavior; a rank of 4 was given to behaviors displayed by 51% to 75% of the college professors; a rank of 5 was given if 76% to 90% of college professors displayed the behavior; and a rank of 6 was assigned if more than 90% of the college professors displayed the behavior. Items are arranged by mean item response from those occurring less frequently to those occurring most frequently in Table 3.

Frequency ratings (Table 3) suggested that students viewed most college professors as knowledgeable in their field, as conducting well organized, well planned courses, and as friendly and courteous in their relationships with students. Personal relationships with students, concern for individual differences, and personalized reinforcement for achievement were rated as behaviors exhibited by only a few college professors. Students also indicated that few professors used teaching aides or other original materials in their teaching.

Video tapes. Video taping was used to collect data about the teachers' behavior in the classroom. Seven outstanding faculty subjects agreed to be videotaped. Raters viewed two four minute segments of a one-period class video tape and described the teacher's using an adjective checklist. The checklist, developed for the research project included sixteen adjectives. The adjectives included on the checklist were matched to the adjectives appearing in the TBRS.

Data Collection Procedures

Each faculty subject received a letter explaining the purpose of the study. Faculty subjects were than telephoned and asked formally to participate in the

Table 3

Frequency Ratings of Behavior Arranged by Mean Item Rank from Most Frequent to Least Frequent in Occurrence

| Item | | Mean |
|---|---|---|
| 1. | specifies the grading model for the course | 5.0 |
| 2. | is very knowledgeable in the field | 4.8 |
| 3. | classroom procedure is planned and well organized | 4.4 |
| 4. | is self-controlled, not easily upset | 4.4 |
| 5. | is friendly and courteous in relations with students | 4.1 |
| 6. | encourages students to do their best | 3.9 |
| 7. | encourages student questions | 3.9 |
| 8. | gives help willingly | 3.9 |
| 9. | gives well organized presentations | 3.9 |
| 10. | is fair, impartial, and objective in treatment of students | 3.9 |
| 11. | is patient | 3.8 |
| 12. | is clear and thorough in giving directions | 3.8 |
| 13. | conducts clear, practical demonstrations and explanations | 3.7 |
| 14. | classroom procedure is flexible within overall plan | 3.5 |
| 15. | has a sense of humor | 3.3 |
| 16. | foresees and attempts to resolve potential difficulties | 3.2 |
| 17. | is cheerful | 3.2 |
| 18. | accepts students efforts as sincere | 3.2 |
| 19. | is interested in pupils | 3.2 |
| 20. | is enthusiastic | 3.2 |
| 21. | shows understanding and sympathy in working with students | 3.2 |
| 22. | uses blackboard well | 3.2 |
| 23. | recognizes and admits own mistakes | 3.1 |
| 24. | encourages students to work through their own problems and evaluate their accomplishments | 3.0 |

Table 3 (cont.)

Frequency Ratings of Behavior Arranged by Mean Item Rank from Most Frequent to Least Frequent in Occurrence

| Item | | Mean |
|---|---|---|
| 25. | anticipates reactions of others | 2.9 |
| 26. | stimulates students through interesting and original materials and techniques | 2.7 |
| 27. | commends effort and gives praise for work well done | 2.6 |
| 28. | anticipates individual needs | 2.6 |
| 29. | uses slides and films | 2.5 |
| 30. | helps students with personal as well as educational problems | 1.8 |

research project. Faculty subjects were interviewed, in some cases videotaped, and student ratings were collected from one of their classes. Data were not collected in the same sequence for all faculty subjects as data collection was adapted to faculty subject's schedules.

## Data Analysis and Results

### Analysis of Faculty Interview Data

Interview data were transcribed onto cards and categories of responses developed. Responses were assigned to categories by five independent judges. A percentage of agreement index was determined for responses and response categories. An agreement index of 80 (agreement among four of the five judges) was the criterion used to establish the reliability of the response categorization. Following the categorization of the responses, SPSS computer programs were used to determine the percentage of responses in each category. Summary data are presented for each topic covered in the interview. The topics included: 1) educational demographic characteristics; 2) attitudes toward teaching; and 3) teaching behaviors.

Educational Demographic Characteristics The initial part of the faculty interview was devoted to collection of educational demographic data. Seven types of data were collected: 1) average number of courses taught per semester; 2) whether courses were in the professor's major area of academic and research interest; 3) size of classes taught; 4) whether courses taught were elective or required; 5) educational level of the classes taught; 6) instructor's preferred teaching level; and 7) whether instruction was conducted at the preferred teaching level. Table 4 summarizes the educational demographic characteristics of the outstanding faculty sample.

Inspection of the data in Tables 1 and 4 indicates that the outstanding faculty sample was composed of experienced teachers from all major units in the university. The teaching assignments of the faculty sample were equally split

Table 4

Summary of the Educational Demographic Characteristics of the Outstanding Faculty Sample

| Average Number of Course Taught Per Semester | Frequency | Percentage |
|---|---|---|
| 1 | 3 | 10 |
| 2 | 14 | 47 |
| 3 | 10 | 33 |
| 4 | 3 | 10 |
| **Courses in the Area of Interest and Expertise** | **Frequency** | **Percentage** |
| Yes | 24 | 80 |
| No | 6 | 20 |
| **Size of Classes** | **Frequency** | **Percentage** |
| Very Small (less than 15) | 2 | 7 |
| Small (15-25) | 3 | 10 |
| Moderate (26-50) | 5 | 16 |
| Large (51-100) | 7 | 23 |
| Very Large (101-800) | 12 | 44 |
| **Courses Taught Elective or Required** | **Frequency** | **Percentage** |
| Elective | 11 | 37 |
| Required | 8 | 26 |
| Both | 11 | 37 |
| **Educational Level of Class Taught** | **Frequency** | **Percentage** |
| Lower Division Undergraduates | 2 | 7 |
| Upper Division Undergraduate | 7 | 23 |
| Beginning Graduate Students | 3 | 10 |
| Advanced Graduate Students | 1 | 3 |
| Undergraduates | 4 | 13 |
| Graduate and Undergraduate | 13 | 43 |
| **Preferred Teaching Level** | **Frequency** | **Percentage** |
| Lower Division Undergraduate | 2 | 7 |
| Upper Division Undergraduates | 7 | 23 |
| Beginning Graduate Students | 3 | 10 |
| Advanced Graduate Students | 1 | 3 |
| No Preference | 17 | 57 |
| **Instructing at Preferred Level** | **Frequency** | **Percentage** |
| Yes | 23 | 77 |
| No | 7 | 23 |

between required and elective courses, and all levels of instruction were represented.

Fifty-six percent of the sample were full professors; forty-six (470 of 1030) percent of the university instructional personnel are full professors. So full professors were over represented in the sample as compared to total university professorate. The majority of the faculty sample (67%) taught large to very large classes. Almost all of the sample (80%) reported teaching courses at their preferred instructional level in their major area of interest and expertise.

Finding a majority of the sample holding the highest professorial rank is consistent with other research which shows that experience and effectiveness ratings are positively related. The effect of the class size variable on judgments of effectiveness is more difficult to interpret. Elmore and Pohlmann (1978) in a study employing 174 college classes found student effectiveness ratings were related to class size with teachers of small classes receiving higher ratings than teachers of large classes. The present study found most teachers in the sample (63%) taught large classes.

The class size variable may offer insight into these professors' ability to interest students in the subject matter they teach, a factor identified by the research of Costin et al (1972) and McKeachie and Lin (1975) as related to students' judgments of a teacher's effectiveness. It is improbable that all students enrolled in a large required undergraduate class have the intrinsic interest in the subject often exhibited by students in smaller elective courses. A more likely explanation is that effective teachers present course material in an interesting and stimulating manner. It is also possible that teaching large classes is prerequisite to developing a university wide reputation as a "good" teacher.

Teacher Attitudes. Attitudes toward teaching were assessed by four questions. These were: 1) the teacher's role in the classroom; 2) perceptions of how students learn, 3) students' responsibilities in learning, and 4) faculty subjects perceptions of their strong points as teachers.

Teacher's Role in the Classroom. Responses to the question of the teacher's role in the classroom were initially sorted into 12 categories and then grouped into three broad role classes. Table 5 gives the frequency of responses for each of the 12 categories subsumed under each role classification. Table 6 given the percentage of the sample giving responses in each role class. The frequencies and percentages listed in the tables give the number of respondents giving responses in each category. Since respondents may have given responses in more than one category, some frequencies sum to more than 30 and the sum of the percentages in some tables is greater than 100.

The effective teacher sample viewed the teacher's as having three roles: 1) a subject-matter expert role, providing information to students; 2) a facilitator role, creating a climate for learning, and/or 3) a motivator role, generating interest in the subject. While the role classifications are not mutually exclusively as indicated by the number of subjects giving responses in more than one class, the flavor of the responses indicated different perceptions of the teacher's role.

Some faculty subjects viewed themselves as subject matter authorities. They regarded teaching as the professor providing information or direction in learning the subject. Other faculty subjects saw themselves as facilitators of learning. This perception of the teacher's role was indicated by the following response: "Learning occurs as a result of the activities of the learner not the teacher. The teacher can create the climate wherein a student can learn, but it is the student who does the learning." Faculty persons stressing the teacher's

Table 5

Response Categories For the Teacher Role Variable

| Class 1 Subject Matter Expert | Frequency | Percentage |
|---|---|---|
| 1. providing information | 8 | 27 |
| 2. guiding reading and research | 11 | 37 |
| 3. communicating information effectively | 11 | 37 |
| 4. leading discussions | 4 | 13 |
| 5. enlightening students, broadening views, instilling values | 3 | 10 |
| Class 2 Facilitator | | |
| 6. creating a climate for learning | 5 | 17 |
| 7. providing feedback and evaluation to students | 4 | 13 |
| 8. adapting instructing to the characteristics of the students taught | 3 | 10 |
| 9. serving as a resource person | 3 | 10 |
| 10. providing students with an opportunity to learn on their own | 8 | 27 |
| Class 3 Motivator | | |
| 11. stimulating curiosity, interest, and enthusiasm for the subject | 13 | 43 |
| 12. motivating students to study and learn | 4 | 13 |

Table 6

Percentage of the Teacher Sample following in each role class

| Role Class | Frequency | Percentage |
|---|---|---|
| Subject Matter Expert | 20 | 67 |
| Facilitation | 15 | 50 |
| Motivator | 15 | 50 |

role as motivator shared some of the philosophy of the professors who saw the teacher's role as facilitator. This group emphasized stimulating curiosity and interest in the subject matter as a means of motivating students to read and study the material. Again a view which places responsibility for student learning with the student rather than the teacher.

Teacher Perception of How Students Learn. Faculty subjects were asked how students learned the subject matter taught by them. Responses to this question were grouped into four categories. These were: 1) a study category; 2) a motivation category; 3) a complexity category; and 4) a learning as a process category. Responses placed in the study category emphasized that learning occurs by the student interacting with course materials, reading the text book, doing assignments, writing papers, etc. Responses in the motivation category stressed that high motivation produces more intense study and greater retention of the material. Responses which stressed that learning is highly complex and individualistic were placed in the complexity category. A typical response was: "Learning differs a great deal from student to student. Some students learn best by reading, others from discussion, etc. The learning as a process category included responses such as: "learning is a process which requires feedback about progress." Learning is a process of internationalizing the material studies and making it relevant to one's own experiences." Table 7 indicates the frequency of responses in each category.

Table 7

Summary of the Faculty Responses to the Question of How Student's Learn

| Category | Frequency | Percentage |
|---|---|---|
| Study | 16 | 53 |
| Motivation | 8 | 27 |
| Individualistic | 8 | 27 |
| Process | 10 | 33 |

The data in Table 7 indicate that the effective teacher sample placed major emphasis upon study as the means by which students learn. Eighty percent of the sample indicated that time spent studying was the critical variable in how well students learned the material.

Perceptions of Student's Responsibilities. Teachers' perceptions of the students' responsibilities were grouped into three categories: 1) attending class; 2) preparing for class; and 3) participating in class. Table 8 summarizes responses for these categories.

Table 8

Faculty Subjects Perceptions of Student Responsibilities

| Responsibilities | Frequency | Percentage |
|---|---|---|
| Attending Class | 11 | 37 |
| Preparing for Class | 27 | 90 |
| Participating in Class | 4 | 13 |

Data in Table 8 again indicate the strong emphasis placed upon study by the sample of effective teachers. Ninety percent of the sample mentioned preparation for class as the student's major responsibility.

Perceptions of Strong Points as a Teacher. The reported strong points of the teacher sample were classified into four categories. They were: 1) a preparation and competence category. This category included responses stressing subject matter knowledge and careful preparation for class; 2) an enthusiasm for teaching category; 3) a category of responses stressing interest in and ability to relate to students. Responses in this category included: "being able to understand the problems student's face in learning the material" and "liking and being interested in students"; and 4) a category including personality variables such as tolerance, flexibility, personal charm, and a sense of humor. Table 9 summarizes the responses.

Faculty participants saw an interest in students, an ability to relate to students, and skill in understanding the difficulties the students face in learning the subject matter taught as their strong point(s) as a teacher.

Table 9

Faculty Sample Perceptions of Personal Strong Points as Teachers

| Strong Points | Frequency | Percentage |
|---|---|---|
| Academic Competence | 12 | 40 |
| Enthusiasm for Subject | 15 | 50 |
| Interest in Students | 19 | 63 |
| Personality Variables | 9 | 28 |

Enthusiasm for the subject matter and for teaching were also mentioned by a majority of the sample. A liking for teaching, a view of teaching as an activity equally as important as research and service in the university community was consistently expressed in interviews with the faculty subjects.

Discussion Summary of the responses to the question of the teacher's role indicated that the effective teacher sample saw transmitting information and creating a climate for learning as important teacher roles. These roles closely parallel Mann et al. (1970) descriptions of the "Teacher as Formal Authority" and the "Teacher as Facilitator".

The sample also viewed generating interest in the subject matter as central to their role as teacher. The importance of the teacher as motivator has been demonstrated in the studies of Costin et al. (1972); Desphande, Webb, and Marks (1970); Downie (1952); and McKeachie and Lin (1975). These studies found that the effective teacher stimulates student interest through interesting materials and dynamic presentation of material. The effective teacher sample also viewed stimulating interest in the subject as an important part of the teacher's role.

The effective teacher sample was also in agreement that time-on-task (study time) was the principle determinant of knowledge acquisition. Eighty percent of the faculty sample stressed that students learned by studying. Ninety percent

of the sample regarded daily preparation for class as the student's chief responsibility.

Faculty believed learning results from active involvement on the part of the student, and learner motivation to study was regarded as the critical variable in learning by twenty-eight percent of the sample. The importance of the teacher as motivator role can be seen in the emphasis the effective teacher sample placed upon student motivation and study of the material as the vehicle for learning. If students were to study, intrinsic or extrinsic motivation was viewed as necessary. Thus the teacher's role as motivator became critical for students not intrinsically motivated to study.

The effective teacher sample described their strengths as teachers as enthusiasm, interest in students and academic competence. These strong points mentioned by the effective teacher sample closely parallel the importance rating reported in Table 2 for the TBRS. Academic competence, interest in students, and enthusiasm are qualities which the effective teacher sample say they possess and which students-in-general rated as being important to effective training.

Academic competence consistently appears in factorial studies of student ratings (Covert & Mason, 1974; McKeachie & Lin, 1975; Pohlman, 1975; Romine, 1974). Rapport variables appear less consistently in the teacher effectiveness literature (McKeachie, Lin, & Mann, 1971). However, personality variables have been found to distinquish teachers rated more effective from those rated as less effective. Thus, there is a close parallel between the effective teachers' view of their strong points as teachers and the research findings of the characteristics of teachers rated as effective by students.

Teaching Behaviors

The third part of the structured interview concerned teaching behaviors. Six types of teaching behaviors were discussed: 1) preparation to teach a

course, 2) preparation to teach a class, 3) use of teaching aides, 4) student workload, 4) method of conducting class; and 6) out-of-class contact with students.

Preparation to Teach a Course. The outstanding faculty sample reported three distinct methods of preparing to teach a course. The methods differed in the procedures used to select course materials and to organize the course content. One method involved extensive reading in the subject field as the basis for selecting and organizing material. A second method focused upon text book selection as the vehicle for organizing the content of the course; the third method used desired student outcomes as the basis for selecting and organizing material. Table 10 reports the number of faculty persons using each method.

Table 10

Methods used to select and to organize materials for a course

| Method | Frequency | Percentage |
|---|---|---|
| Extensive reading | 20 | 67 |
| Text book selection | 5 | 17 |
| Identification of desired student outcomes | 5 | 16 |

The most frequently reported method (67% of the sample) involved extensive reading, selection of appropriate course material, and sequencing of material for presentation. A smaller proportion of the sample (17%) reported that they prepared for a course by selecting a textbook and then developed teaching aides, assignment, etc. based upon the content and organization of the textbook. The remaining faculty (16%) indicated that they began by identifying the desired student outcomes. Student outcomes became the basis for selection of material and served as a guide for sequencing the material in a way that the teacher believed would foster realization of the desired student outcomes.

Preparation to Teach a Class. The faculty samples' responses to the question of how they prepared to teach a class were grouped into six categories. Table 11 summarizes responses to this question.

Table 11

Responses to the Question "How do you prepare to teach a class?"

| Activity | Frequency | Percentage |
|---|---|---|
| Reading | 28 | 93 |
| Organized lectures | 22 | 73 |
| Rehearsed delivery | 4 | 13 |
| Anticipated Questions/problems | 18 | 60 |
| Prepared assignments | 15 | 50 |
| Developed teaching aides | 13 | 43 |

Inspection of the data in Table 11 indicates that class preparation was a valued activity. About half of a sample reported preparing assignments and teaching aides in addition to reading and preparing lectures. Sixty-six percent of the sample reported devoting time to anticipating student's difficulties in learning the material and summarizing areas of student difficulties for future reference.

Use of Teaching Aides. Faculty respondents were asked if they used eight particular types of teaching aides. Responses to the teaching questions are presented in Table 12.

Data in Table 12 indicate extensive use of teaching aides. Only one faculty member responded that none of the teaching aides were used. Eighty percent (n = 24) of the sample reported using at least one teaching aide in addition to homework. Furthermore, a substantial proportion of the sample reported developing innovative teaching aides. Stimulations, games, computer assisted instructional devices, and statistical films and slides were among the types of teaching aides reported.

Table 12

Percentage of the Faculty Sample Using Specified Teaching Aides

| Teaching Aid | Frequency | Percentage |
|---|---|---|
| Advanced Organizers | 8 | 27 |
| Daily Homework | 25 | 83 |
| Transparencies | 17 | 57 |
| Slides and Films | 21 | 70 |
| Computer-assisted instruction | 6 | 20 |
| Games or stimulations | 15 | 50 |
| Workbooks | 11 | 37 |
| Written Objectives | 16 | 53 |

Percentage of the Faculty Sample Using Multiple Teaching Aides

| Number of Teaching Aides Used | Frequency | Percentage |
|---|---|---|
| 0 | 1 | 03 |
| 1 | 2 | 07 |
| 2 | 3 | 10 |
| 3 | 6 | 20 |
| 4 | 5 | 16 |
| 5 | 7 | 23 |
| 6 | 4 | 13 |
| 7 | 2 | 07 |

Types of Learning Activities Required of Students. Faculty subjects were asked to name the types of activities required of their students and whether the activities contributed to the students grades. Table 13 lists the activities cited by the faculty sample.

Table 13

Types of Learning Activities Required of Students

| Activity | Frequency | Percentage |
|---|---|---|
| Reading the text | 29 | 97 |
| Library Reading | 20 | 67 |
| Writing Paper | 20 | 67 |
| Oral Reports | 11 | 37 |
| Projects or Problems | 16 | 53 |
| Discussant in Class | 19 | 63 |
| Exams | 28 | 93 |

Number of Different Types of Required Activities

| Number of Activities | Frequency | Percentage |
|---|---|---|
| 1 | 0 | |
| 2 | 5 | 17 |
| 3 | 3 | 10 |
| 4 | 2 | 7 |
| 5 | 7 | 23 |
| 6 | 8 | 27 |
| 7 | 5 | 17 |

All of the faculty surveyed required multiple learning activities. Course exams were used by ninety-three per cent of the sample and required library reading was reported by 63% of the sample. Class participation (discussant in class) was considered in course grades by over half of the sample.

Conduct of Class. Seventy-six percent of the sample indicated that they used a combination lecture and discussion approach in conducting class. Sixteen percent of the sample (five faculty persons) indicated that they used lecture

exclusively in conducting class and two faculty subjects indicated exclusive use of discussion and question-answer format in their classes. Faculty subjects were asked what they thought contributed to an effective lecture. Table 14 summarizes responses to this question for faculty subjects reporting that they used the lecture format in class.

Out of class contact with Students. Faculty subjects discussed their out-of-class contact with students indicating the proportion of their class seen outside of the class and the focus of these contacts. Table 15 summarizes the nature of the out-of-class contact faculty subjects maintained with students.

All faculty subjects indicated that they saw class members outside of class. Seventy-seven percent indicated that student contact was structured around formal office hours. The remaining members of the sample stated that their contacts with students were less formalized. Contact with students focused upon class and related educational concerns; however, eighty-seven percent of the sample indicated that students did approach them with personal non-course related concerns.

Discussion. Three distinct approaches to course preparation were presented by the faculty subjects, but within the preparation formats commonalities in class preparation, class organization, use of teaching aides, and student work load were evident. Faculty respondents valued teaching and devoted time to preparing for class. The amount of time devoted to preparing for class was evident in the number and variety of activities the respondents utilized in course preparation. Half of the sample reported anticipating students questions, preparing assignments, and developing teaching aides as part of their regular class preparation. Teaching aides were routinely used by the effective teacher sample with eighty percent of the sample reported using more than two types of teaching aides.

Table 14

Responses to the Question of what makes an effective lecturer

| | Response Category | Frequency | Percentage |
|---|---|---|---|
| A. | Preparation for lecture | 10 | 33 |
| | 1. good organizational skills | | |
| | 2. thorough knowledge of the subject | | |
| | 3. selection of important topics | | |
| | 4. relevance of material | | |
| B. | Presentation of the material | 10 | 33 |
| | 1. present the material simply | | |
| | 2. be enthusiastic about the material | | |
| | 3. have self confidence in front of a group | | |
| | 4. show enthusiasm in student interest | | |
| | 5. emphasize the important points | | |
| | 6. be concise and clear | | |
| | 7. speak clearly | | |
| C. | Style of delivery | 7 | 23 |
| | 1. have a smooth delivery | | |
| | 2. by dynamic | | |
| | 3. dramatize, i.e. be entertaining | | |
| | 4. respond to the students | | |
| | 5. pace well | | |
| D. | The "props" | 2 | 7 |
| | 1. eye contact | | |
| | 2. move around the room | | |
| | 3. decrease the physical distance from the class | | |

Table 15

Summary of Out-of-Class Contact with Students

Office Hours Maintained

| | Frequency | Percentage |
|---|---|---|
| Yes | 23 | 77% |
| No | 7 | 23% |

Proportion of Class Seen Outside Class

| Proportion | Frequency | Percentage |
|---|---|---|
| less 10% | 6 | 20% |
| 11 -- 40% | 5 | 17% |
| 41 -- 60% | 1 | 3.3% |
| 61 -- 90% | 8 | 27% |
| 91 -- 100% | 3 | 10% |

Proportion of Class Seen for Educational Concerns

| Proportion | Frequency | Percentage |
|---|---|---|
| less than 10% | 7 | 23 |
| 11 -- 40% | 5 | 17 |
| 41 -- 60% | 3 | 10 |
| 61 -- 90% | 2 | 7 |
| 91 -- 100% | 1 | 3 |

Proportion of Class Seen for Personal-Social Concerns

| Proportion | Frequency | Percentage |
|---|---|---|
| less than 10% | 14 | 47 |
| 11 -- 40% | 3 | 10 |
| 41 -- 60% | 2 | 7 |
| 61 -- 90% | 1 | 3 |
| 91 -- 100% | 0 | 0 |

Heavy student workload was also characteristic of the teacher sample. Eighty-three percent of the sample required homework, sixty-seven percent required library reading, and ninty-three percent gave in-class examinations. Finding heavy course requirements is consistent with the sample's emphasis upon student study, the active participant view of learning, and the view that learning requires immersion in the material to be learned. The heavy work load is also consistent with research reported by McKeachie & Lin, (1975). These researchers found students regarded a large quantity of work as a component of good instruction.

A combination of lecture and discussion was the most frequently used class presentation format. Respondents stressed that lecture alone made learning passive and that discussion or question-answer sessions were necessary to involve students actively in the learning process. Faculty subjects who used lecture indicated that preparation and organization and clear presentation with a dynamic style of delivery were important components of an effective lecture. The number of respondents (56%) emphasizing presentation and delivery suggest that the sample of effective teachers did view an effective lecturer as a dynamic speaker.

The effective teacher sample maintained out-of-class contact with students. Forty percent of the sample saw at least half of their students for out-of-class appointments. While the effective teacher sample emphasized the importance of being available to students, they maintained formal relationships with students. Most of the out-of-class contact focused upon educational concerns and was conducted during scheduled office hours. Effective teachers were willing to assist students with personal concerns, but saw their relationship with students as educational rather than personal or social in nature.

Student Ratings

Each faculty subject selected one class and the Teacher Behavior Rating Scale (TBRS) was administered to students agreeing to provide data. Twenty-two faculty subjects (73%) agreed to have their students surveyed. Faculty subjects not agreeing to have students complete the TBRS were those who planned to use other student rating forms and thus felt that additional class time could not be given to collecting student rating data. For the twenty-two faculty subjects, complete student rating data were collected from 585 students.

Means and standard deviations were computed for each item across the total student sample. Table 16 gives the item means and standard deviations for the thirty-one items on the TBRS.

Summary of the student rating data for the total student sample indicated that the outstanding teacher sample was consistently described as "knowledgeable in the field" ($X = 6.7$; $s = .59$), enthusiastic ($X = 6.42$; $s = .84$), cheerful ($X = 6.35$; $s = .87$), and humorous ($X = 6.3$; $s = .96$). These findings suggest that the outstanding teacher sample were seen by their students as possessing superior academic abilities, as being enthusiastic about the subject matter and teaching, and as having a humorous and/or upbeat delivery of material.

To further understand the TBRS data, student rating were factor analyzed using principal components analysis. (SPSS statistical programs were used.) Varimax rotation yielded three factors. Each factor was defined by items having factor loading greater than .50. Factor I labeled Interpersonal Skills was defined by six items. Factor II labeled Skill in relating to Students in the Classroom Setting. Five items had factor loading greater than 50 on Factor III, Skill in Organizing and Delivering Material in Class. Table 17 lists the items loading on each factor.

Table 16

Means and Standard Deviations for the
Teacher Behavior Rating Scale Items (n = 585)

| Item | X | S |
|---|---|---|
| Is enthusiastic | 6.42 | .84 |
| Is interested in students | 6.25 | 1.02 |
| Is cheerful | 6.35 | .87 |
| Is self-controlled, not easily upset | 6.11 | 1.20 |
| Has a sense of humor | 6.37 | .96 |
| Recognizes and admits own mistakes | 6.15 | 1.09 |
| Is fair and impartial with students | 6.10 | 1.15 |
| Is patient | 5.93 | 1.23 |
| Show understanding in working with students | 5.98 | 1.18 |
| Is friendly and courteous in relations with students | 6.33 | 1.01 |
| Helps students with personal as well as educational problems | 5.02 | 1.53 |
| Commends effort and gives praise for work well done | 5.65 | 1.29 |
| Accepts student efforts as sincere | 5.96 | 1.12 |
| Anticipate reactions of others | 5.60 | 1.22 |
| Encourages students to do their best | 6.22 | 1.10 |
| Classroom procedure is planned and well organized | 6.23 | 1.14 |
| Classroom procedure is flexible | 5.89 | 1.24 |
| Anticipates individual needs | 5.47 | 1.32 |
| Stimulates students through interesting and original materials and techniques | 5.86 | 1.31 |

Table 17

Factor Loadings for items comprising the three factors of the TBRS

| Factor I | |
|---|---|
| Item | Loading |
| Is Cheerful | .56 |
| Is self-controlled, not easily upset | .65 |
| Has a sense of humor | .57 |
| Is Patient | .74 |
| Shows understanding and sympathy in working with students | .71 |
| Is friendly and courteous in relations with students | .72 |

| Factor II | |
|---|---|
| Item | Loadings |
| Is enthusiastic | .52 |
| Is interested in students | .54 |
| Commends effort and gives praise for work well done | .64 |
| Accepts student efforts as sincere | .63 |
| Encourage students to do their best | .61 |
| Anticipates individual needs | .64 |
| Stimulates students through interesting and original materials and techniques | .67 |
| Conducts clear, practical demonstrations and explanations | .65 |
| Is clear and thorough in giving directions | .62 |
| Encourages students to work through their own problems and evaluate their accomplishments | .63 |
| Gives help willingly | .53 |
| Forsees and attempts to resolve potential difficulties | .63 |
| Encourages student questions | .55 |
| Gives well organized Presentations | .52 |

Table 17 (cont.)

Factor III

| Item | Loading |
|---|---|
| Classroom procedure is planned and work organized | .58 |
| Uses blackboard well | .662 |
| Gives well organized presentations | .55 |
| Specifies the grading model for the course | .50 |
| Presents lectures | .51 |

Table 18 gives the means and standard deviations for the total group for each factor.

Table 18

Means and Standard Deviations for the TBRS Factor for the total Student Sample

| Factor | X | S |
|---|---|---|
| Interpersonal Skills | 6.19 | .20 |
| Classroom Skill in Relating to Students | 6.02 | .27 |
| Organizational Skill | 5.89 | .42 |

Mean scores for each factor indicated little difference in the student ratings. As a group, faculty were rated very high (Means of 6 on a seven point scale) on both interpersonal and organizational skills.

Finally, relationships between students'-in-general mean importance and frequency ratings of TBRS items (see tables 2 and 3) were correlated with mean students ratings for the faculty sample. Table 19 reports these coefficients.

Significant agreement ($p < .05$) was found among the three sets of ratings. The mean item ratings on the TBRS for the faculty sample showed a significant

Table 19

Correlations between Item Means for the Importance, Frequency Data from Students-in-General and the Item Means for the Outstanding Teacher Sample

| | Importance | Frequency | Faculty Rating |
|---|---|---|---|
| Importance | | .39* | .46** |
| Frequency | | | .63** |

*p < .05
**p < .01,

correspondence with the mean importance ratings given by students asked to rate items on the TBRS scale in terms of their important to effective teaching (Table 2). There was also a significant relationship between students' ratings of faculty and students'-in-general reports of the high frequency behaviors of faculty. Thus the correlation suggests that the behavior of the sample of outstanding teachers was similar to that of university faculty in general.

Discussion. Analysis of the student ratings indicated overall positive ratings with limited within group variability in the ratings. The faculty sample received the highest ratings on items describing them as knowledgeable, enthusiastic, cheerful, and humorous. There was also a close correspondence between faculty self-report of strengths as a teacher, student ratings of faculty strengths and students-in-general ratings of the characteristics important to effective teaching.

Subject matter expertise was reported as a strength by 40% of the faculty sample and the mean student rating on the "knowledgeable in the field" item was 6.76. The standard deviation for this item was .59. (Table 16). Of the 30 traits rated "knowledgeable in the field" received the highest mean rating. The mean student ratings for enthusiasm and interest in students were 6.41 and 6.25 respectively. For the total student sample (n = 585), enthusiasm was the second

highest rated trait and interest in students was ranked seventh of thirty traits.

Correlation between the mean ranks for the importance ratings by students-in-general and the mean item ranks for student rating of the faculty sample was .46 $p < .01$. The significant association between these sets of data indicates that the effective teacher sample as a group exhibited the characteristics students-in-general considered important to effective teaching.

Relationship Between Student Ratings and Faculty Self-Report.

One of the goals of the present study was to relate faculty and student data. To accomplish this goal, t-tests for independent groups were used to test for differences in student ratings between groups of faculty members. The grouping variables were the faculty's reports of 1) teacher role in the classroom and 2) teaching strengthes.

Teacher Roles. Analysis of the faculty interview data identified three roles assumed by the faculty sample: subject matter expert, facilitator, and motivator (Table 6). For each role classification corresponding items on the TBRS were identified. Mean TBRS sub-scale scores were compared for the groups of subjects classified as assuming and not assuming a given role. Thus the mean item response for TBRS items 25, 29, and 31 (See Table 2 for a listing of the items) for teachers who reported that the teacher's role was that of subject matter expert was compared to the mean student responses for the faculty group not reporting this role. Table 20 gives the results of the t-tests for the teacher role classes.

Teacher Strengthes. Teacher self-report of strengths yielded four faculty grouping variables: 1) enthusiasm, 2) academic competence, 3) interest in students, and 4) personality variables. Means scores for TBRS items reflecting these strengthes were computed and t-tests between the means were computed for each grouping variable. Table 21 presents the results of this analysis.

Table 20

Results of the t-tests for differences in student ratings between faculty groups assuming different roles

| Role | X | N | |
|---|---|---|---|
| Subject Matter Expert Role | | | |
| Yes | X = 6.24 | n = 293 | |
| No | X = 5.93 | n = 425 | |
| | t = -4.57 | df = 1,716 | p < .01 |
| Facilitator Role | | | |
| Yes | X = 5.95 | n = 298 | |
| No | X = 5.52 | n = 389 | |
| | t = 5.34 | df = 1,685 | p < .01 |
| Motivator Role | | | |
| Yes | X = 6.25 | n = 351 | |
| No | X = 6.06 | n = 364 | |
| | t = 2.60 | df = 713 | p < .05 |

Table 21

Results of the t-tests for differences in student ratings between faculty groups reporting different strengths as teachers

| Strengthes | X | N | |
|---|---|---|---|
| Enthusiasm | | | |
| Yes | X = 6.40 | n = 510 | |
| No | X = 6.50 | n = 212 | |
| | t = -1.48 | df = 720 | |
| Academic Competence | | | |
| Yes | X = 6.83 | n = 265 | |
| No | X = 6.69 | n = 451 | |
| | t = 2.63 | df = 714 | p < .05 |
| Interest in Students | | | |
| Yes | X = 6.27 | n = 352 | |
| No | X = 5.97 | n = 370 | |
| | t = 4.37 | df = 720 | p < .01 |
| Personality Variables | | | |
| Yes | X = 6.40 | n = 178 | |
| No | X = 6.09 | n = 544 | |
| | t = 3.77 | df = 720 | p < .01 |

Discussion Analysis of the student rating data for groups of faculty assuming different teaching roles indicated that teachers adopting the facilitator and motivator roles were rated significantly higher on the TBRS items reflecting these roles than teachers who did not play these roles. The same pattern of responses was observed for the faculty self-reports of teaching strengthes. Faculty reporting academic competence, interest in students, and personality variables among their strengthes as teachers were rated higher on these variables by their students than were teachers who did not report these strengthes. Faculty subjects were uniformly rated high by students on the enthusiasm variable. The differences in mean ratings were very small which limits their practical usefulness. However, the findings show the high degree of agreement between faculty self-report and student ratings.

Video-tape Data

Video tapes of seven faculty participants were observed by eleven raters who described the teacher using a 16 item adjective checklist. An adjective by faculty participant frequency matrix was developed. This matrix indicating the number of raters using each adjective to describe each faculty subject is given in Table 22. Row totals for the matrix indicate the frequency, with which each adjective as used to describe the faculty subjects' teaching style.

Observational data revealed the same pattern of strengthes as the students rating data. The faculty were described as knowledgeable, confident, authoritative, and enthusiastic. Adjectives like defensive, sarcastic, and hesitant were used infrequently in describing the faculty sample. The picture which emerges is one of knowledgeable, self-confident persons who feel in control of the classroom environment. The importance of confidence probably lies in the fact that if students feel that the professor is confident, the student is free to ask any question or comment without fear of threatening the professor.

Table 22

Matrix of Responses For the Video tapes of the Faculty Sample

| | | Observations | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | Total | % |
| | humorous | | 11 | 7 | | | 1 | 2 | 21 | 27 |
| | enthusiastic | 2 | 8 | 3 | 5 | 6 | 3 | 7 | 34 | 44 |
| | confident | 10 | 10 | 9 | 8 | 11 | 9 | 10 | 67 | 87 |
| A | attractive | 6 | 1 | 2 | 1 | 1 | 1 | 3 | 15 | 19 |
| D | sarcastic | | 8 | 3 | | | | | 11 | 14 |
| J | dynamic | 1 | 10 | 3 | 2 | 5 | 2 | 10 | 33 | 43 |
| E | critical | 1 | 7 | | 2 | 1 | 2 | | 13 | 17 |
| C | authoritative | 2 | 9 | 8 | 8 | 6 | 3 | 4 | 40 | 52 |
| T | defensive | | 1 | | 2 | | | | 3 | 04 |
| I | cheerful | 6 | 6 | 2 | 4 | 1 | | 5 | 24 | 31 |
| V | charming | 2 | 3 | 1 | 4 | | 2 | 2 | 14 | 18 |
| E | calm | 9 | 1 | 8 | 8 | 4 | 8 | | 38 | 45 |
| S | knowledgeable | 10 | 11 | 10 | 10 | 11 | 10 | 8 | 70 | 91 |
| | energetic | 1 | 9 | 2 | 3 | 8 | 1 | 10 | 34 | 44 |
| | hesitant | 1 | | | | | 1 | | 2 | 03 |
| | dignified | 1 | 3 | 7 | 6 | 7 | 3 | 3 | 30 | 39 |

Summary

This study was designed to obtain multidimensional data about the teaching behaviors of university faculty nominated for and receiving major university teaching awards. Teacher self-report, student ratings, and video-tapes of class meetings were the data analyzed.

Analysis of the data indicated that the effective teacher sample were experienced and competent teachers. The sample included full professors in a substantially larger proportion than the faculty as a whole. Additional indications that it was academic competence which led to judgments of effectiveness came from faculty self-reports of their strengthes as teachers. A majority of the faculty surveyed reported that subject matter expertise explained their effectiveness as teachers. Students ratings of the sample were in agreement that subject matter knowledge was a characteristic of these faculty persons.

The "knowledgeable in the field" item had the highest mean and lowest variance of all the items rated.

In addition to academic factors, personal-social variables were cited by the sample as explanatory variables for their effectiveness. Teachers reported that enthusiasm for the subject taught and the ability to relate to students were also among their strong points as teachers. The amount of out-of-class contact with students reported by the sample supported their contention of interest in students. Student ratings of items reflecting interest in students, willingness to work with students, and receptiveness to questions were consistent with the faculty self-report. Over-all there was a high degree of agreement between faculty self-report of strengthes and student ratings.

Student ratings and video tape observations further suggest that the faculty members were enthusiastic and dynamic in the classroom. While sense of humor and entertaining style of delivery were mentioned as important to effective classroom presentations, they were not stressed as explanatory variables. However, students and observers described the teachers observed as enthusiastic, humorous, dynamic, and confident.

The question of the relationship between judgments of teacher effectiveness, knowledge, and style of delivery tend to be approached as if effectiveness is related to one of these variables, but cannot be related to both. The sample of teachers studied appeared to combine subject matter expertise with enthusiasm for teaching and, in some cases, an entertaining style of delivery.

Teaching was a valued activity to the teachers in the sample. They reported enjoying teaching and liking to work with students. As teaching was viewed as an important activity, time was devoted to class preparation and to developing teaching aides and other innovative teaching procedures. The effective teacher sample earned a mean of 5.9 on the item "stimulates stude[illegible]

through interesting and original materials and techniques", an item rated by students-in-general as a very important, but low frequency behavior among college professors. The sample of effective teachers was rated as exhibiting this behavior.

The sample was also in agreement that goal of teaching was to involve the students actively in the learning process. Learning was viewed as an active process and the lecture-discussion format was used by three fourths of the sample. The importance of students actively interacting with the course material was stressed; and the relationship between daily study of the material and learning was recognized by these professors. Systematic study and preparation for class were consistently cited as the method by which students learned. Closely related to the emphasis upon active learning was the heavy student work load characteristic of these facultys' persons' classes. Homework, library reading, papers, and exams were reported as required student activities.

In summary, the effective teacher sample were probably judged effective for several reasons. First, they were knowledgeable were in their field and were perceived by students as persons from whom they (the students) can learn a great deal about the field. Second, they enjoyed teaching and were enthusiastic about the subjects taught; students react very favorably to enthusiasm on the part of the instructor. Third, the effective teacher sample respected students and communicated to their students their willingness to assist them in learning. They give out-of-class time to work with students which conveyed to students an interest in students and teaching. That is, students probably view these professors as valuing teaching and contact with students. Fourth, the effective teachers placed heavy work demands upon students. Previous research (McKeachie & Lin, 1975) indicates that students associate doing a lot with learning a lot. Finally, the sample saw learning as an active process. They stressed learner

participation and regularly spaced study of the material. That is, they fostered behaviors which research indicates facilitate learning.

The data in this study contradicted certain beliefs about the variables that influence teacher effectiveness ratings. They were not consistent with the belief that competence and experience are unrelated to ratings, that teaching small elective courses is the best way to obtain high student effectiveness ratings, or that high ratings are given to teachers who place few demands upon students. In general the research was consistent with previous research which identifies knowledge and teaching skill; preparation and organization skill; personality and rapport characteristics; and student work load as variables which influence student ratings of instructors. The study adds to the existing research by indicating that the teaching behaviors of this sample of effective teachers are consistent with educational practices which are known to increase learning. Finally, it suggests that the study of teaching behaviors of faculty persons receiving different teaching ratings may offer insights into the degree to which differences in student ratings reflect potential differences in student learning.

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